in the vicinity of the wound, swells from the imbibition of water, and regains its natural dimensions on the removal of the water. This absorption must have a beneficial influence in promoting removal of the secretions, and preventing disorders in the capillary circulation. M. Langenbeck has observed inflammation of the edges of the wound and phlegmonous redness only in cases where purulent deposits were formed, or where the sutures were too tight.

In three or four days, the dead layer is removed in portions by the water, and granulation commences. In a very hort time, the deeper parts become filled up, the ends of the bones are covered, and the granulations from the medullary canal unite with the others. In the bath, the granulations attain a development, which is not observed with other modes of dressing. Their semitransparent appearance shows that this depends in part on the absorption of the water. When the wound is covered with granulations, cicatrization commences. This is probably somewhat retarded by the bath; hence at this stage M. Langenbeck has recourse to the ordinary dressings.

To ascertain whether wounds heal more rapidly under water than when exposed to air, a large number of comparative experiments would be required; and even then we must remember that the period of healing varies even for the same operation. In three cases of subcutaneous resection of the tibia and fibula, healing took place in five, seven, and twelve weeks; while in two cases of subcutaneous excision of ankylosed elbow-joints, the wounds healed in the water bath in four weeks. A case of excision of the knee-joint, performed at Kiel, required fourteen weeks; while another case, under the influence of the bath, required only eight weeks. It must be remembered, however, that operation wounds sometimes heal very rapidly under the ordinary treatment, Nevertheless, M. Langenbeck is inclined to believe that the use of the bath promotes cicatrization.

Will the employment of the bath obviate the danger of pyæmia? This question cannot yet be decidedly answered; but M. Langenbeck has never seen pyæmia attend this treatment, although it occurred at the same time in other patients under his care. Chilling of the wound, retention and decomposition of the secretions, and miasmata, are the causes of pyæmia. These are obviated by the use of the bath; although the possibility of the occurrence of pyæmia cannot be denied.

M. Langenbeck relates several cases in which he has employed the treatment described, viz:—

1. Compound comminuted fracture of the right leg: 2. Osteosarcoma of the right tibia; amputation immediately below the knee: 3. Carcinoma of the foot; amputation by Lisfranc's method: 4 and 5. Ankylosis of the right elbow; subcutaneous resection: 6. Medullary cancer of the patella; removal of the patella, and excision of the ends of the bones: 7. Large fibrous tumour on the outer side of the knee; extirpation; joint opened; extensive gangrene and sanious suppuration. Recovery took place in all the cases except the last.

In the *Deutsche Klinik* for October 13, 1855, Dr. Fock publishes some further observations. The following are the cases in which the use of the bath is indicated: 1. All large wounds of the soft parts, whether it be desired to heal them by the first intention or not. 2. Penetrating wounds of the joints. 3. Compound fractures, as soon as inflammation and suppuration of the skin and cellular tissue set in. 4. Lacerations of the soft parts of the hands and feet, with or without injury of the bones. 5. After lithotomy, urethrotomy, operation for hernia, removal of uterine tumours, extirpation of the ovary. 6. Caries. 7. Whitlow, diffuse phlegmon, and acute suppurative œdema. 8. Gangrene. 9. Burns. 10. Acute and chronic inflammation of the joints. 11. Operations for ankylosis and contracted joints, whether by rupture or osteology. [12. The Cæsarean section?]—*Association Med. Journ.*, March 8, 1856.

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19. *Surgical Uses of Glycerine.*—In our preceding No. (p. 518), we noticed some observations made by M. Demarquay on the surgical applications of glycerine. Since M. Demarquay published his remarks, further experiments have been made on the subject, the result of which has been published (*Gazette*

Médicale de Paris, January 26, 1856) by M. Lutton. He describes first the physical, and then the therapeutic effects of glycerine.

1. *Physical Effects.*—Being of an oily appearance, while it is of the consistence of syrup, it prevents the dressings from adhering to the wound; and by its solubility in water, it allows the wounds to be readily cleaned. Glycerine evidently moderates suppuration; and on the other hand, being very hygrometric, it keeps the parts constantly moist, and prevents the products of exudation from concreting. To obtain this result, it is necessary to apply the glycerine in abundance, and to impregnate the charpie and linen well with it. It protects the parts from the action of the air, and maintains them at a sufficiently high temperature. In these respects, glycerine is superior to fatty matters for surgical dressings.

2. *Therapeutic Uses.*—The first effect of the application of glycerine is to produce a slight prickling sensation, which, however, is soon calmed, and is never very distressing.

Simple Wounds.—In ordinary wounds, whether accidental or surgical, and free from complication, glycerine has no very manifest action. Under its application, wounds heal at least as soon as under most neutral local applications, and almost the only circumstance of any note is the small amount of suppuration. Besides this, there is scarcely ever an exuberance of granulations.

Burns.—In different degrees of burns, glycerine is a very convenient and efficacious application. Patients who have been treated by the transcurrent cautery, on account of white swelling, sciata, etc., have objected to be dressed with glycerine, on the ground that the burn healed too quickly, and did not "draw" enough. The happy effect of glycerine has been remarkably observed in a case of burn in the second degree, produced by an explosion in a mine.

Diphtheritis of Wounds.—In the Hospital of St. Louis, wounds, during the first days of their production, present a grayish, almost diphtheritic appearance, and become clean slowly. Under the influence of glycerine, this condition, more troublesome than serious, is arrested; the wound assumes a rosy aspect, without any exuberance of granulations.

Hospital Gangrene.—It was for this affection that glycerine was first employed in the Hospital of St. Louis. The disease in the first case was very extensive, and had been unsuccessfully treated by lemon-juice, quinine, and even by strong nitric acid and the actual cautery. In this, as in two other cases, glycerine was completely successful.

Abscesses and Purulent Deposits.—In deep wounds and sinuous ulcers, glycerine has been used, either by being introduced on a piece of charpie, or as an injection. The amount of suppuration has been remarkably diminished, and the period of cicatrization has been smaller. M. Demarquay has also injected glycerine into cold and congestive abcesses, and those in connection with inflamed bones, with complete success.

Ulcers.—Chronic, varicose, gangrenous, and other ulcers, have become rapidly clean under the influence of glycerine. The surface throws out granulations, and cicatrization soon takes place. Rest is a powerful and necessary aid.

Chancres.—Glycerine though it has no specific action on chancres, rapidly cleans the surface, and causes them to assume a healthy appearance.

Diseases of the Neck of the Uterus.—MM. Trousseau and Aran have already employed glycerine, but with little satisfaction, in uterine affections. M. Demarquay, however, has found it useful in simple or granular ulceration of the cervix. When the ulceration has been chronic, or when the cervix was rather enlarged and tumefied, caustic applications were also made. Glycerine was then applied by means of wadding: after the separation of the eschar, the secretions, commonly so abundant and fetid, were remarkably moderate in quantity.

In vaginitis, also, glycerine has been applied; but here, as in diseases of the cervix uteri, nothing conclusive can as yet be arrived at regarding its efficacy.

The editor of the *Med. Times and Gaz.* states (April 22, 1856) that he has lately had an opportunity of watching a trial of the remedy by Mr. Skey, in St. Bartholomew's Hospital. The first few cases in which it was resorted to appeared greatly benefited, and Mr. Skey was induced by their result to direct its general use. His final conclusion, however, as stated in clinical remarks, has been, that the remedy possesses no peculiar virtues whatever. A considerable number of sores heal rapidly during its use, as, indeed they would do under that of any non-irritating application which would exclude the air and prevent drying; in those, however, which have assumed an unhealthy state, and which resist the influence of other like remedies, it effects nothing whatever. A smaller series of trials by Mr. Hutchinson on patients at the Metropolitan Free Hospital, have led him to the same conclusion with Mr. Skey. Unhealthy sores dressed with it for periods of three weeks have remained precisely *in statu quo.* It is an agreeable application, causes no smarting, excludes the air, keeps the sore moist, and does not adhere to its edges; but beyond these it appears to possess no recommendations. While more expensive, it seems little, if at all, superior to olive or almond oil. It may seem difficult to reconcile the great discrepancy between foreign and English experience which these conclusions show. It might, perhaps, scarcely be deemed fair to insinuate, that on the Continent the employment of dressings which simply exclude air, and are themselves non-irritating, is not so well understood as among ourselves, and that, consequently, credit has been given to a single remedy which belongs rather to the whole class. Such, however, we suspect is, to some extent, the case. In one case, recorded by M. Petel, the source of fallacy is transparent. A woman came under his care for phagedænic stomatitis. Glycerine was applied, and *chlorate of potash given.* A very rapid cure, of course, occurred. The narration reminds one of Voltaire's assertion, that he could easily kill a flock of sheep by spells of witchcraft, provided, at the same time, he might mix a little arsenic with their food.

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20. *New Method of Treating Phagedæna.*—Mr. Cock has recently been trying, in Guy's Hospital, a plan of treating phagedænic ulcers by constant irrigation. The method is, to have the sore well exposed, and the affected limb placed on some waterproof material; a reservoir above the bed is then filled with lukewarm water, and, by means of an elastic tube, a stream is kept continually flowing over the surface of the sore. By this means all particles of discharge, etc., are washed away as soon as formed, and the ulcer assumes the clean, pale appearance of a piece of meat which has been long soaked. In all the cases in which it has been practicable to employ the irrigation efficiently, a speedy arrest of morbid action has been secured, and the number has included several in which the disease was extensive and severe. The theory of the treatment is, that phagedænic action is a process of local contagion—the *materies morbi* by which the ulcer spreads being its own pus. Admitting this supposition—which there is every reason for doing—to be true, the object to be kept in view in curative measures is either to decompose or to remove the local virus. This end is accomplished somewhat clumsily by such remedies as the nitric acid, which, unless so freely used as not only to char up all the fluid matters, but to destroy the whole surface of the ulcer to some depth, fails to prevent a recurrence. Mr. Cock's plan of subjecting the ulcer to a perpetual washing attempts the accomplishment of the same end by a more simple and direct method. It involves no pain to the patient, and does not destroy any healthy tissues. Its one disadvantage seems to be, that, excepting on the extremities, its use would be attended with some inconvenience, from the difficulty of preventing the water from running into the patient's bed. Should, however, further trials confirm the very favourable opinion which has been formed at Guy's as to its value, these difficulties might, no doubt, be surmounted by the contrivance of suitable apparatus. The directions as to temperature of the water are that it should be as warm as comfortable to the feelings of the patient; and, as preventive of smell, Mr. Cock advises the addition of a small quantity of the chloride of lime or of soda.—*Med. Times and Gaz.*, April 12, 1856.

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21. *Is it always necessary to resort to Amputation when a Limb is attacked with Sphacelus?*—Prof. Bardinet, of Limoges, has brought this important question before the Academy of Medicine of la Haute Vienne, and has answered it in the negative.